AMENDMENTS TO THE CLAIMS

Please REWRITE claims 1-3, 5, 18, 28, 42, 56-60, and 63. For the Examiner's convenience, this Amendment includes the text of all claims under examination, a parenthetical expression for each claim to indicate the current status of the claims, and markings to show the changes to the claim relative to the immediate prior version of the claim.

1. (Currently Amended) A method for processing media data, the method comprising:

receiving a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes first content ~~that includes multimedia data streams, the first content~~ containing first content portions ~~encoded according to a first content format~~;

analyzing the first content to detect sets of related first content portions, each set defining a presentation group for the first content, ~~one of the multimedia data streams,~~ and to determine an ~~at least one~~ access point for each presentation group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the first content;

generating a private transport packet for each presentation group, each private transport packet including metadata derived from at least one of the first content portions in the respective presentation group, the metadata containing information allowing modified production of the first content in a manner that is different than a first production of the first content defined by the first content format, wherein the information allowing modified production includes a pointer to the ~~said at least one~~ access point;

creating second content by embedding ~~combining the first content and~~ the private transport packet for each presentation group in the multimedia data stream; and

storing the second content.

2. (Currently Amended) A method for presenting content to a client device, the method comprising:

receiving a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes second content that includes ~~multimedia data streams, the second content containing~~ first content, and private transport packets, the first content containing first content portions that are arranged as ~~first content portions encoded according to a first content format, and~~ a series of presentation groups, each presentation group including related first content portions ~~for one of the multimedia data streams~~ and one of the private transport packets, ~~a private transport packet,~~ each private transport packet containing metadata that includes information allowing modified production of the first content in a manner that is different than a first production of the first content defined by the first content format, wherein the information allowing modified production includes a pointer to an ~~at least one~~ access point for each presentation group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the first content;

producing a content stream for presentation to the client device using the metadata contained in at least one of the private transport packets associated with at least one of the presentation groups of the first content portions in the second content to produce a modified production of at least one of the first content portions in a manner that is different than the first production of the first content defined by the first content format; and

presenting the content stream to the client device.

3. (Currently Amended) A method for processing information, the method comprising:

analyzing portions of a logical data stream including data content received as a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, ~~multimedia data streams from a source~~ to detect groups of the data content, each group defining a presentation of the logical data stream ~~associated with one of the multimedia data streams~~, and to determine an ~~at least one~~ access point for each group, the ~~said at least one~~

access point including ~~at least one pointer to~~ timing data in the logical data stream ~~data content~~; and

based on the analyzing ~~the data content received from the source~~, generating metadata for each of at least one of the groups of the data content, the metadata including a pointer to the ~~said at least one~~ access point, wherein the metadata is embedded in the logical data stream [[and]] being used to support manipulation of presenting the logical data stream when the logical data stream ~~metadata for each group and the data content of the logical data stream~~ is ~~combined and~~ later presented to a receiver for play back.

4. (Original) A method as in claim 3, wherein generating metadata includes:

generating metadata that i.) supports navigation among different portions of the logical data stream in response to commands received from remote users each playing back at least a portion of the logical data stream substantially in real-time; and ii.) enables serial streaming of non-contiguous portions of the logical data stream in response to commands from remote users requesting presentation of the logical data stream in a different manner than originally supported by a content format of the logical data stream.

5. (Currently Amended) A method as in claim 3 further comprising:

creating at least one retrievable file formatted to include analyzed portions of the logical data stream and corresponding generated metadata;

for storage of the metadata in proximity to a first portion of the logical data stream, generating a pointer identifying a relative location of a second portion of the logical data stream; and

storing the pointer in relation to the first portion of the data stream.

6. (Original) A method as in claim 5 further comprising:

interleaving the pointer between portions of the logical data stream at an access point including a data field in a known position relative to the first portion of the logical data stream.

7. (Original) A method as in claim 3 further comprising:

buffering contiguous portions of the logical data stream;

generating multiple pointers based on the relative positions of each of multiple portions of the logical data stream; and

inserting the pointers at predetermined data fields interleaved among portions of the logical data stream.

8. (Original) A method as in claim 7 further comprising:

utilizing the pointers on playback of the logical data stream to determine which portion of the logical data stream is streamed to a user in response to receiving a command from the user to which the logical data stream is transmitted.

9. (Original) A method as in claim 3, wherein the data content is formatted according to MPEG (Moving Picture Experts Group).

10. (Original) A method as in claim 5 further comprising:

storing the file along with similarly formatted files in a semiconductor chip-based memory storage system; and

streaming the files and data content therein to receiver devices that play corresponding logical data streams in real-time.

11. (Original) A method as in claim 3 further comprising:

reserving data fields in the file for tracking the metadata.

12. (Original) A method as in claim 3, wherein generating metadata includes:

generating time stamps for portions of the logical data stream to support replaying the logical data stream later in time.

13. (Original) A method as in claim 12 further comprising:

inserting the generated time stamps in relation to corresponding portions of the logical data stream.

14. (Original) A method as in claim 3 further comprising:

interleaving the logical data stream and generated metadata to produce an enhanced logical data stream; and

storing the enhanced logical data stream in memory for later retrieval and playback to multiple users.

15. (Original) A method as in claim 14 further comprising:

removing the metadata prior to transmitting the logical data stream to the receiver.

16. (Original) A method as in claim 14, wherein generating metadata includes:

generating offset information identifying a location of time stamps supporting playback of the enhanced logical data stream.

17. (Original) A method as in claim 3 further comprising:

storing the data content of the logical data stream and generated metadata in a semiconductor chip based memory unit for later retrieval.

18. (Currently Amended) A system to process data content in a logical data stream, the system comprising:

a buffer to at least temporarily store portions of the logical data stream received as a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format ~~multimedia data streams from a content source~~; and

an analyzer to analyze portions of the logical data stream received ~~from the content source~~ to detect groups of the logical data stream, each group defining a presentation of the logical data stream ~~associated with one of the multimedia data streams~~, and to determine an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the logical data stream, the analyzer generating metadata for each of at least one of the groups of the logical data stream, the metadata including a pointer to the ~~said at least one~~ access point, wherein the metadata is embedded in the logical data stream [[and]] being used ~~at a later time~~ to

support manipulation of presenting the logical data stream when ~~the data content of~~ the logical data stream is later ~~combined with the metadata for each of the groups and~~ presented to a receiver.

19. (Original) A system as in claim 18, wherein the metadata: i.) supports navigation among different portions of the logical data stream in response to commands received from remote users each playing back at least a portion of the logical data stream substantially in real-time; and ii.) enables serial streaming of non-contiguous portions of the logical data stream in response to commands from remote users requesting presentation of the logical data stream in a different manner than originally supported by a content format of the logical data stream.

20. (Original) A system as in claim 18, wherein the analyzer creates a retrievable file formatted to include analyzed portions of the logical data stream and corresponding generated metadata, the metadata including pointers to different portions of the logical data stream.

21. (Original) A system as in claim 18, wherein the buffer buffers contiguous portions of the logical data stream; and wherein the analyzer:

generates multiple pointers based on the relative positions of each of multiple portions of the logical data stream; and

inserts the pointers into the logical data stream.

22. (Original) A system as in claim 18, wherein the data content is formatted according to an MPEG (Moving Picture Experts Group) protocol.

23. (Original) A system as in claim 18, wherein the analyzer generates metadata including time stamps for portions of the logical data stream to support replaying the logical data stream later in time.

24. (Original) A system as in claim 18, wherein the analyzer interleaves the logical data stream
and generated metadata to produce an enhanced logical data stream for storage in memory.

25. (Original) A system as in claim 24, wherein the analyzer generates metadata including offset information identifying a location of time stamps supporting playback of the enhanced logical data stream.

26. (Original) A system as in claim 18, wherein the analyzer generates metadata including content-dependent information to support navigation within the logical data stream.

27. (Original) A system as in claim 18 further comprising:

a storage device including multiple addressable memory chips to store the logical data stream and generated metadata for later retrieval.

28. (Currently Amended) A method for presenting data content to a client, the method comprising:

retrieving an enhanced logical data stream a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes data content, and metadata, the ~~including multimedia data streams containing~~ data content arranged as a series of groups, each group including related data content ~~for one of the multimedia data streams~~, and the metadata associated with each of at least one of the groups, the metadata including information enabling manipulation of how the data content of the enhanced logical data stream is presented to the client device, wherein the information enabling manipulation includes a pointer to an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the data content;

generating a content stream including the data content depending on input from the client device indicating how to present the data content; and

presenting the content stream to the client.

29. (Original) A method as in claim 28, further comprising:

navigating among different portions of the logical data stream in response to commands received from remote users each playing back at least a portion of the logical data stream substantially in real-time, the metadata enabling serial streaming of non-contiguous portions of the logical data stream in response to commands from remote users requesting presentation of the logical data stream in a different manner than originally supported by a content format of the logical data stream.

30. (Original) A method as in claim 28 further comprising:

streaming first portions of the enhanced logical data stream for presentation of corresponding data content to the client while simultaneously streaming second, different portions of the logical data stream for presentation of corresponding data content to another client.

31. (Original) A method as in claim 30 further comprising:

utilizing time stamp information stored in the metadata to present the content stream to the client with respect to a real-time clock.

32. (Original) A method as in claim 28 further comprising:

utilizing offset information stored as metadata to locate time stamps in the enhanced logical data stream for presenting the content stream to the client.

33. (Original) A method as in claim 28 further comprising:

removing the metadata from the enhanced logical data stream to produce the content stream including data content presented to the client.

34. (Original) A method as in claim 28, wherein pointers are interleaved with the data content of the enhanced logical data stream, the pointers identifying portions of the enhanced logical data stream including other metadata.

35. (Original) A method as in claim 34, wherein the pointers support navigation of the enhanced logical data stream and manipulation of how the data content of the enhanced logical data stream is presented to the client.

36. (Original) A method as in claim 28, wherein the metadata includes content dependent information to support different types of presentation modes.

37. (Original) A method as in claim 28 further comprising:

receiving an input command from the client identifying a presentation mode for receiving the data content at the client; and

utilizing pointers stored in specified data fields of the enhanced logical data stream to present the content stream to the client according to the input command.

38. (Original) A method as in claim 37, wherein the input from the client indicates to fast forward presentation of data content in the enhanced logical data stream to the client.

39. (Original) A method as in claim 37, wherein the input from the client indicates to rewind presentation of data content in the enhanced logical data stream to the client.

40. (Original) A method as in claim 28 further comprising:

utilizing the metadata stored in the enhanced logical data stream to determine whether to suppress playing back an audio signal of the content stream.

41. (Original) A method as in claim 28, wherein the content stream includes commercials that are substantially presented in real time to the client regardless of input from the client.

42. (Currently Amended) A system for presenting data content to a client, the system comprising:

a stream processor to retrieve from storage an enhanced logical data stream including a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes data content, and metadata, the ~~multimedia data streams containing~~ data content arranged as a series of groups, each group including related data content ~~for one of the multimedia data streams~~, and the metadata associated with each of at least one of the groups, the metadata of the enhanced logical data stream including information enabling manipulation of how the data content of the enhanced logical data stream is presented to the client, the stream processor generating a content stream including the data content depending on input from the client device indicating how to present the data content to the client, wherein the information enabling manipulation includes a pointer to an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the data content; and

a memory device to at least temporarily store the enhanced logical data stream for processing.

43. (Original) A system as in claim 42, wherein the metadata: i.) supports navigation among different portions of the logical data stream in response to commands received from remote users each playing back at least a portion of the logical data stream substantially in real-time; and ii.) enables serial streaming of non-contiguous portions of the logical data stream in response to commands from remote users requesting presentation of the logical data stream in a different manner than originally supported by a content format of the logical data stream.

44. (Original) A system as in claim 42, wherein the stream processor streams first portions of the enhanced logical data stream for presentation of corresponding data content to the client while simultaneously streaming a second, different portions of the logical data stream for presentation of corresponding data content to another client.

45. (Original) A system as in claim 42, wherein the stream processor utilizes time stamp information stored in the metadata to present the content stream to the client with respect to a real-time clock.

46. (Original) A system as in claim 42, wherein the stream processor utilizes offset information stored as metadata to locate time stamps in the enhanced logical data stream for presenting the content stream to the client.

47. (Original) A method as in claim 42, wherein the stream processor removes a substantial portion of the metadata from the enhanced logical data stream to produce the content stream including data content presented to the client.

48. (Original) A system as in claim 42, wherein the metadata includes pointers interleaved with the data content of the enhanced logical data stream, the pointers identifying portions of the enhanced logical data stream including other metadata.

49. (Original) A system as in claim 48, wherein the pointers support navigation of the enhanced logical data stream and manipulation of how the data content of the enhanced logical data stream is presented to the client.

50. (Original) A system as in claim 42, wherein the stream processor retrieves one of multiple enhanced logical data streams from storage for a substantially real-time presentation of the content stream to the client.

51. (Original) A system as in claim 42, wherein the stream processor receives an input command from the client identifying a presentation mode for receiving the data content at the client and utilizes pointers stored in specified data fields of the enhanced logical data stream to present the content stream to the client according to the input command.

52. (Original) A system as in claim 51, wherein the input from the client indicates to fast forward presentation of data content in the enhanced logical data stream to the client.

53. (Original) A system as in claim 51, wherein the input from the client indicates to rewind presentation of data content in the enhanced logical data stream to the client.

54. (Original) A system as in claim 42, wherein the stream processor utilizes the metadata stored in the enhanced logical data stream to determine whether to suppress playing back an audio signal of the content stream.

55. (Original) A system as in claim 42, wherein the content stream includes commercials that are substantially presented in real time to the client regardless of input from the client.

56. (Currently Amended) A computer program product including a computer-readable medium having instructions stored thereon for processing data information, such that the instructions, when carried out by a processing device, enable the processing device to perform the steps of:

analyzing portions of a logical data stream including data content received as a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, ~~multimedia data streams from a source~~ to detect groups of the data content, each group defining a presentation of the logical data stream ~~associated with one of the multimedia data streams~~, and to determine an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the logical data stream; and

based on the analyzing ~~the data content received from the source~~, generating metadata for each of at least one of the groups of the data content, the metadata including a pointer to the ~~said at least one~~ access point, wherein the metadata is embedded in the logical data stream [[and]] being used to support manipulation of presenting the logical data stream when the logical data stream ~~metadata for each group and the data content of the logical data stream~~ is ~~combined and~~ later presented to a receiver for play back.

57. (Currently Amended) A system to process data content in a logical data stream, the system comprising:

a buffer to at least temporarily store portions of the logical data stream received as a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format ~~multimedia data streams from a content source~~; and

means for analyzing portions of the logical data stream received ~~from the content source~~ to detect groups of the logical data stream, each group defining a presentation of the logical data stream ~~associated with one of the multimedia data streams~~, and to determine an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the logical data stream, the analyzing means generating metadata for each of at least one of the groups of the logical data stream, the metadata including a pointer to the ~~said at least one~~ access point, wherein the metadata is embedded in the logical data stream [[and]] being used ~~at a later time~~ to support manipulation of presenting the logical data stream when ~~the data content of~~ the logical data stream is later ~~combined with the metadata for each of the groups and~~ presented to a receiver.

58. (Currently Amended) A computer program product including a computer-readable medium having instructions stored thereon for processing data information, such that the instructions, when carried out by a processing device, enable the processing device to perform the steps of:

retrieving an enhanced logical data stream a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes data content, and metadata, the ~~including multimedia data streams containing~~ data content arranged as a series of groups, each group including related data content ~~for one of the multimedia data streams~~, and the metadata associated with each of at least one of the groups, the metadata including information enabling manipulation of how the data content of the enhanced logical data stream is presented to the client device, wherein the

information enabling manipulation includes a pointer to an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the data content;

generating a content stream including the data content depending on input from the client device indicating how to present the data content; and

presenting the content stream to the client.

59. (Currently Amended) A system for presenting data content to a client, the system comprising:

means for retrieving from storage an enhanced logical data stream including a multimedia data stream for a single program, wherein the multimedia data stream is a time based sequence of packets encoded according to a first content format, and wherein the multimedia data stream includes data content, and metadata, the ~~multimedia data streams containing~~ data content arranged as a series of groups, each group including related data content ~~for one of the multimedia data streams~~, and the metadata associated with each of at least one of the groups, the metadata of the enhanced logical data stream including information enabling manipulation of how the data content of the enhanced logical data stream is presented to the client, the retrieving means generating a content stream including the data content depending on input from the client device indicating how to present the data content to the client, wherein the information enabling manipulation includes a pointer to an ~~at least one~~ access point for each group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in the data content; and

a memory device to at least temporarily store the enhanced logical data stream for processing.

60. (Currently Amended) A method for processing a digital data stream for seamless playback, the method comprising:

a) receiving a packetized digital data stream that includes a multimedia data stream for a single program ~~multimedia data streams~~ and supports playback in a first manner, said data stream including a plurality of presentation groups, each presentation

group defining a presentation of the data stream ~~associated with one of the multimedia data streams~~;

b) analyzing said packetized digital data stream to obtain information on said packetized digital data stream, said information including an ~~at least one~~ access point for each presentation group, the ~~said at least one~~ access point including ~~at least one pointer to~~ timing data in said packetized digital data stream;

c) generating a Private Transport Packet (PTP) for each of at least one of said presentation groups, each PTP based on said information obtained for the respective presentation group;

d) embedding the PTPs in ~~storing~~ said packetized digital data stream ~~combined with said PTPs~~; and

e) upon receipt of a request from a client, transmitting the packetized digital data stream to the client~~, enabling the client to play back the packetized digital data stream~~ in a second manner, utilizing said PTPs[[,]] to create said second manner, enabling the client to play back the packetized digital data stream, said second manner being different from said first manner.

61. (Original) A method for processing a digital data stream as in claim 60, wherein each of said private transport packets includes metadata, said metadata being associated with multiple analyzed portions of the data stream, said metadata being used to support manipulation of presenting the data stream.

62. (Original) A method for processing a digital data stream as in claim 61, wherein said metadata: i) supports navigation among different portions of the data stream in response to commands received from a client each playing back at least a portion of the data stream substantially in real-time; and ii) enables serial streaming of non-contiguous portions of the data stream in response to commands from a client requesting presentation of the data stream in a manner different than originally supported by a content format of the data stream.

63. (Currently Amended) A method for processing a digital data stream as in claim 60, wherein the step of d) embedding of the PTPs in ~~storing~~ said packetized digital stream ~~and said PTPs~~ further comprises:

embedding the ~~storing~~ PTPs to precede the corresponding presentation groups in said data stream.

64. (Original) A method for processing a digital data stream as in claim 60, wherein said PTP includes navigation data, said navigation data including pointers to other PTPs.